



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,093	07/15/2003	Jorg Berthold	L&L-10217	8716

24131 7590 10/31/2005

LERNER AND GREENBERG, PA  
P O BOX 2480  
HOLLYWOOD, FL 33022-2480

EXAMINER
----------

KIK, PHALLAKA

ART UNIT	PAPER NUMBER
----------	--------------

2825

DATE MAILED: 10/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/620,093

Applicant(s)

BERTHOLD ET AL.

Examiner

Phallaka Kik

Art Unit

2825

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7/15/03, 9/15/03, 11/24/03.
- 2a) ☐ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☒ Claim(s) 1-19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/15/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action responds to the Application and IDS filed on 7/15/2003, priority documents filed on 11/24/2003 and Oath and Declaration filed on 9/15/2003. Claims 1-19 are pending.

#### ***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Ex Parte Quayle***

3. This application is in condition for allowance except for the following formal matters:

The objection to the oath or declaration as indicated on paragraph 4 below, the possible objections of claims 10-13, 17-18 set forth in section paragraph 6 below, and the objections of claims 1-19 due to the noted informalities set forth in section paragraph 7 below.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

#### ***Oath/Declaration***

4. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Non-initialed and/or non-dated alterations have been made to the oath or declaration, wherein the post office address of one of the inventor, Henning Lorch, was altered without properly initialed and dated of the change and wherein such page containing the correct post office address is also crossed out without initialed and dated indication. See 37 CFR 1.52(c).

5. An Application Data Sheet in compliance with 37 CFR 1.76 may be used to correct this type of defect (see 37 CFR 1.76(c)).

***Claim Objections Under 37 CFR 1.75***

6. Applicant is advised that should claims 1-4,8-9 be found allowable, claims 10-13,17-18 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof, wherein "first", "second", "third", "fourth", "fifth" recited in claim 10 are substantially equivalent to "a)", "b)", "c)", "d)" and "e)" recited in claim 1. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Objections***

7. **Claims 1-19** are objected to because of the following informalities:

As per **claims 1,10**, "which" (line 3) should be --said method-- for further clarification; --having-- should be inserted after "and" (line 8) to clearly indicate that "paths having an identical path transit time fluctuation and not "having substantially" an identical path transit time fluctuation; "the group figures" (line 18) should be --group figures-- for proper antecedent basis.

As per **claims 6-7**, "the maximum" (line 3) should be --a maximum-- for proper antecedent basis.

As per **claims 8,17**, "the path" (lines 3 and 4 respectively) should be --path-- for proper antecedent basis;

"the number" (lines 6 and 7 respectively) should be --a number-- for proper antecedent basis.

As per **claim 11**, "step e)" should be --fifth step-- for proper antecedent basis.

As per **claims 14-16**, the claims should depend on claim 1, to provide for proper antecedent basis for "step a)", "step b)". Also, as per **claims 14-16**, "the maximum" (line 4) should be --a maximum-- for proper antecedent basis.

As per **claim 19**, "which" (line 3) should be --said method-- for further clarification.

As per **claims 2-9,11-18**, the claims are also objected to for incorporating the above errors into the respective claims by claim dependency.

Appropriate correction is required.

***Allowable Subject Matter***

8. **Claims 1-19** would be allowable if rewritten or amended to overcome the objections due to the noted informalities and to the possible duplicate claims objections under 37 CFR 1.75, set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter:

As per **claims 1-19**, the independent claims 1,10,19, from which the respective claims depend, recite the method for determining at least one critical path of an integrated circuit limiting a processing speed of the integrated circuit, comprising the inventive steps determining the at least one critical path of the integrated circuit by comparing the group figures (calculated in step (c) or third step) at least as great as a critical path transit time determined (in step (a) or first step) by taking into consideration the total figure (as calculated in step (d) or fourth step), as claimed, which the prior arts made of record failed to teach or suggest. In particular, the prior arts made of record teach various methods/systems for determining critical paths, including determining mean path transit times (i.e., mean or average skews or delays) and path transit time fluctuations (or variations) and ordering or grouping of the paths (see especially **Eisele, M. et al.**, "The Impact of Intra-Die Device Parameter Variations on Path Delays and on the Design for Yield of Low Voltage Digital Circuits", IEEE Transactions on Very Large Scale Integration (VLSI) Systems, Vol. 5, No. 4, December 1997, pp. 360-368, especially pages 364-365 and Figs. 9-11; **Bowman, K. A. et al.**, "Impact of Extrinsic and Intrinsic Parameter Fluctuations on CMOS Circuit Performance", IEEE Journal of Solid-State Circuits, Vol. 35, No. 8, August 2000, pp. 1186-1193, especially pp. 1187; **Ishikawa et al.**, US Patent No. 4,888,808, especially col. 9, line 42 to col. 10, line 7; **Eisenstadt**, US Patent No. 5,173,618, especially col. 2, lines 20-40; col. 4, lines 10-55; **Camporese et al.**, US Patent No. 6,205,571, especially col. 3, lines 40-59; col. 10, lines 20-60; **Nakahara, Hideki et al.**, Japanese Patent No. JP-2000341239, especially abstract). However, none of the prior arts made of record teach or suggest the

inventive steps as claimed. Accordingly, the claimed invention is novel and un-obvious over the prior arts made of record.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Therefore, Applicant is herein requested to consider them carefully in response to this Office Action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phallaka Kik whose telephone number is 571-272-1895. The examiner can normally be reached on Monday-Friday, 6:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

**Any response to this action should be mailed to:**

Commissioner for Patents  
P. O. Box 1450

Application/Control Number: 10/620,093  
Art Unit: 2825

Page 7

Alexandria, VA 22313-1450

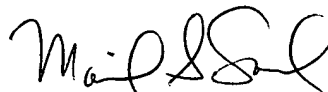
**or faxed to:**

571-273-8300

PK

12

October 20, 2005



MATTHEW SMITH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800